

ON THE TICKS OF CUBA, WITH DESCRIPTION OF A  
NEW SPECIES, *AMBLYOMMA TORREI*, FROM  
*CYCLURA MACLEAYI* GRAY.<sup>1</sup>

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In the literature on Ixodoidea I find the following information relating to species recorded from Cuba.

F. J. Balmaseda (Enfermedades de las aves ó Ensayo sobre Patornitología y consideraciones sobre Higiene Pública en la Isla de Cuba. Havana, 1889) cites two species: "*Ixodes reticulatus*" (pp. 272 and 275) on cattle, and "*Ixodes ricinus*" (p. 272) on dogs.

G. Neumann (Mém. Soc. Zool. France) records *Rhipicephalus annulatus* (1897, p. 412); *R. bursa* (1897, p. 393); *Amblyomma cajennense* (1899, p. 208); *A. tuberculatum* (1899, p. 236); *A. albopictum* (1899, p. 244); *Rhipicephalus annulatus*, typical (1901, p. 279); and *R. annulatus* var. *microplus* (1901, p. 280).

C. W. Stiles and A. Hassall (U. S. Dept. Agric., Bur. Anim. Ind., Circ. No. 34, 1901, p. 3) cite *Boophilus australis* as present in Cuba.

Nuttall, Warburton, Cooper and Robinson (A Monograph of the Ixodoidea, 1908-1926) repeat in part the records given by Neumann.

A publication issued by the Secret. Agric. Com. y Trab., Habana, (Circ. No. 57, 1919, p. 7) states that "*Boophilus annulatus* or *Margaropus annulatus*" is the most common species.

N. S. Mayo (First Annual Rept. Agric. Exp. Sta. Cuba, 1906, p. 44) lists from Cuba *Dermaacentor nitens*, *Margaropus annulatus*, and *M. annulatus australis*; and later (Second Rept. Agric. Exp. Sta. Cuba, 1909, p. 27), he also mentions *Rhipicephalus texanus* as a Cuban species on dog.

<sup>1</sup>Translated, from the original Spanish MS, by J. Bequaert.

W. A. Hooker (Jl. Econ. Entom., II, 1909, p. 415) gives a list of the ticks known at the time from Cuba. He repeats most of the previous records and includes the following species of which he saw Cuban specimens in the collection of the U. S. Bureau of Entomology: *Amblyomma albopictum*, *Argas miniatus*, *Margaropus annulatus*, *Ornithodoros marginatus* (Banks, MS. name).

In 1910 (Proc. Ent. Soc. Washington, XII, p. 6), N. Banks describes *Ornithodoros marginatus*, from a cave in the Guanajay Mountains, Cuba (collected by Palmer and Riley), and also from a West Indian bat (collected by Barrett, probably in Porto Rico).

The foregoing data might call for some discussion, but I prefer to give the following brief summary.

1. "*Ixodes reticulatus*" = *Dermacentor reticulatus* (Fabr., 1794). It is evident that Balmaseda used this name for the ticks he found on cattle, because "*Ixodes reticulatus*" is the best known tick name. The presence of this species in Cuba could only be explained as accidental, through introduction with cattle from Europe. Given this possibility and in view of its origin, this species should be struck out from the Cuban list.

2. "*Ixodes ricinus*" = *Ixodes ricinus* (Lin., 1758). Up to the present the occurrence of this tick in the island has not yet been positively established. It seems certain that Balmaseda cited it only because he was familiar with the name.

I mention the foregoing two species only because they have appeared in print.

3. *Amblyomma albopictum* Neumann, 1899. The occurrence of this tick in Cuba has been confirmed.

4. *Amblyomma cajennense* (Fabricius, 1787). This species is very common in Cuba.

5. *Amblyomma tuberculatum* Marx, 1894. This tick was collected by Gundlach and identified by Neumann. Dr. Bequaert is of the opinion that Gundlach obtained his specimens off gopher turtles brought to Cuba from the United States, where the species is indigenous. In view of this, this tick must be eliminated from the Cuban list.

6. *Rhipicephalus annulatus*, *R. annulatus* var. *microplus*, and *Boophilus australis* all refer to *Boophilus microplus* (Canestrini 1888), in so far as the species of Cuba is concerned.

7. "*Margaropus annulatus* or *Boophilus annulatus*." I have searched for this tick with special care, examining lots coming from many different parts of the island, but I have never seen it. If it occurs on cattle imported from the United States, it must be very rare.

8. *Dermacentor nitens* Neumann, 1897. The occurrence of this tick in Cuba is certain.

9. *Argas miniatus* Koch, 1844. This name is now regarded as a synonym of *Argas persicus* (Oken, 1818), which is well known as a Cuban tick.

10. *Ornithodoros marginatus* N. Banks, 1910. Dr. Bequaert, who saw cotypes in Mr. Banks' collection at the Museum of Comparative Zoölogy, Cambridge, Mass., informs me that it is an extremely remarkable species. As Mr. Banks states, it is "readily known from all other species by the row of tufted humps on margins of body." It probably is peculiar to West Indian caves, where it doubtless feeds on bats.

11. *Rhipicephalus bursa* Canestrini and Fanzago, 1877. This is mainly a tick of the Old World, where it is found on cattle, horses and other hosts. It is rather similar to *R. sanguineus*, and it is possible that the specimens seen by Neumann from Cuba were that species and not the true *R. bursa*. In any case, the record needs confirmation and I do not therefore include the species in my list. It should be noted that Neumann did not mention *R. sanguineus* from Cuba.

12. *Rhipicephalus texanus* N. Banks, 1908. The correct identity of this species is open to question. The Cuban specimens which Mayo referred to it, were, however, beyond doubt *R. sanguineus*, the common dog-tick of the island.

I shall now give a list of the species of ticks at present positively known to occur in Cuba, with the hosts on which they may be found, as well as the localities.

## IXODOIDEA Banks, 1894

I. *Argantidæ* Agassiz, 1846G. *Argas* Latreille, 1796

1. *A. persicus* (Oken, 1818) Fischer, 1827.—Host: *Gallus gallus*. Localities: Provinces of Havana, Matanzas, and Santa Clara. This species has been known in the island for many years. The country-people call it and its larvae “*garrapatillas*.” As in other countries, it has been shown rather frequently in Cuba that this parasite transmits spirochetosis of poultry.

G. *Ornithodoros* Koch, 1844

2. *O. megnini* (Dugès, 1883) Neumann, 1896. Host: *Equus caballus*. Locality: Province Havana. It does not appear to be common. I have only encountered it once, on a native horse, and I cannot assure that it is actually indigenous. If it is shown later not to be indigenous, it should be struck out from the list.

3. *O. marginatus* Banks, 1910. Locality: Guanajay Mountains, Prov. Pinar del Rio. It is restricted to bats. Two larvae, possibly of this species, were taken by Mr. P. Bermudez off a bat, *Eumops glaucinus* (Wagner), at Caibarien, Prov. Santa Clara.

II. *Ixodidæ* Murray, 1877G. *Dermacentor* Koch, 1844

4. *D. nitens* Neumann, 1897.—Hosts: *Equus caballus*, *Bos taurus*, and also *Epicrates angulifer* Bibron. Localities: Provinces of Havana, Pinar del Rio, Santa Clara, Matanzas, and Camaguey. This tick was first recorded from Cuba by N. S. Mayo (1906). It is widely distributed over the entire island. I have found it parasitizing indiscriminately equines and bovines, but more particularly the former, in the ears, in the region of the anus and perineum. I have found it also once on a “*Majá de Santa María*” (*Epicrates angulifer*) captured at Calabazar de Sagua (Prov. Santa Clara).

G. *Rhipicephalus* Koch, 1844

5. *R. sanguineus* (Latr., 1806) Koch, 1844.—Host: *Canis familiaris*. Localities: Provinces of Havana, Ma-

tanzas, and Santa Clara. This is the common dog-tick of Cuba, widely distributed, probably, over the entire island. I have not seen it outside the provinces mentioned.

#### G. *Boophilus* Curtice, 1891

6. *B. microplus* (Canestrini, 1888). Hosts: *Bos taurus*, *Equus caballus*. Localities: Provinces of Havana, Matanzas, Pinar del Rio, Santa Clara, and Camaguey. This species has been recorded by various investigators (Neumann, Stiles, Bequaert). It is the common tick of our cattle. I have taken specimens from deer ("venado"), *Odocoileus virginianus*, at Artemisa, Prov. Pinar del Rio.

#### G. *Amblyomma* Koch, 1844

7. *A. cajennense* (Fabr., 1787) Koch, 1844. Hosts: *Equus caballus*, *Bos taurus*. Localities: Provinces of Havana, Pinar del Rio, and Santa Clara. This, as well as *Boophilus microplus* and *Dermacentor nitens*, are our most common ticks, which parasitize cattle.

8. *A. albopictum* Neumann, 1899. Host: *Cyclura macleanyi* Gray. Locality: Province of Havana. The species was first described by H. Lucas (1852; as *Ixodes variegatus*), from specimens collected near Havana by Gundlach. The present author has also found it.

9. *Amblyomma* species? (near *scutatum* Neumann, 1899). Hosts: *Bufo peltacephalus* Tschudi (vernacular name: "sapo"), *Cyclura macleanyi* Gray. Localities: Provinces of Havana (Laguna de Ariguanabo) and Oriente (San German; collected by M. Jaume). The true identity of this tick is as yet undecided. According to Dr. Bequaert, it is quite different from *A. dissimile* Koch, and possibly represents an undescribed species.

10. *A. torrei*, new species. Host: *Cyclura macleanyi* Gray (*carinata* of authors; vernacular name "iguana").

Locality: Province of Havana.

Description: *Amblyomma*.

Male: Length, 3.2 mm.; greatest width, 3 mm. Body slightly oval, without marginal groove; cervical groove short and deep; eyes of median size, not orbited, quite apparent; scutum convex, ornate; eleven quadrangular festoons; five ventral plates; dentition 3:3.

Scutum convex; color pale chestnut, with two large and continuous pale spots, placed symmetrically on each side; each spot occupying about one-third of the total length, and extending without interruption from the outer half of the scapular angles to the first two festoons. The pale chestnut fringe extends without interruption from the internal half of the scapular angle to the festoons 3-7, narrowing in its posterior two-thirds like a belt, and continuing without interruption, but with a very irregular inner border, along the margin to the eye. In the pale areas there is a narrow green band, which in the center is of a pale porcelanous violet color and toward the outside with a yellowish tinge and small green spots. Festoons as wide as long. Dorsum with fine, uniformly distributed punctures. Venter glabrous; genital orifice slightly anterior to coxa II; anus one-third of the total length from the hind margin. Stigmal plate subtriangular, with rounded angles. Five ventral plates, nearly circular, placed approximately opposite the festoons 2, 4, 6, 8, and 10. Coxa I with one triangular, median spur and another short spur, a little projecting from a broad base. Coxa II with a triangular spur, but smaller than that of coxa I. Coxa III with a spur similar to that of coxa II, and a slightly marked projection on its base. Coxa IV with a spur similar to that of coxa III, and a projection or raised portion, slightly marked at the base. Tarsi gradually attenuated. Capitulum 1.2 mm. long; basis capituli 0.56 mm. long and 0.76 mm. wide. Palpi 0.8 mm. long; segment I short; segment II, 0.32 mm. long; segment III, 0.24 mm. long; segment IV rudimentary. Hypos-tome dentition 3:3.

*Female*: Unknown.

The species is dedicated to the learned Naturalist, Dr. Carlos de la Torre y Huerta.

[*Note*.—The collection of the Museum of Comparative Zoölogy contains two males of *A. torrei*, taken off *Cyclura macleayi* Gray, in the valley of Luiz Lazo, Prov. Pinar del Rio, Cuba, by Dr. C. de la Torre and Dr. Thomas Barbour. I have compared them with a paratype, kindly sent by Dr. Viguera, and they agree in every respect.—J. Bequaert.]